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1 EVK features

- USB connectivity to PCs/ laptops
- Up to 2000Hz sampling rate supported
- Temperature measurements supported
- Service mode access
  - Full IMU information
  - Full IMU configuration capability
  - Detailed IMU diagnostics
  - Help section
- Measure panel
  - Data presentations and save data to file capability
  - Custom scale and zoom functions
  - CRC check
- Logging panel
  - Support for any measurement duration, only limited by hard drive, available memory and processor capacity of PC
  - Various stop criteria for measurements available ('Manually', 'No. of samples' or 'Time elapsed')

Measurements of up to 4 IMUs simultaneously supported (requires additional cables depending on the type of evaluation kit)

USB-kit – important notice!
The USB kit supports certain distinct bit rates only. The following bit rates have been tested and verified:

Approved bit rates w/USB kit
3 000 000 bps
2 000 000 bps
1 500 000bps
1 411 765 bps
Most settings below 1 300 000 bps

1.1 General descriptions

The evaluation kit provides measurement and configuration access to STIM318 IMU. Configuration, graphical result presentation and save data to file functions are supported. The single voltage supply required for the IMU operation is provided from an USB port.

This evaluation kit provides the alternative, portable, solution, e.g. for laptops, and is an excellent choice for IMU configuration and shorter measurement series.

The kit includes a USB-RS422 converter from Future Technology Devices International which is integrated in one of the communication cable USB connectors.

The USB-RS422 converter cable is a USB to RS422 levels serial UART converter cable, incorporating FTDI's FT232RQ USB to serial UART interface IC device which handles all the USB signalling and protocols. The cable provides a fast, simple way to connect IMUs with a RS422 interface to USB.

Each USB-RS422 cable contains a small internal electronic circuit board, utilising the FT232R, which is encapsulated into the end of the (communication) cable. The integrated electronics also include the RS422 transceiver plus Tx and Rx LEDs which give a visual indication of data traffic on the cable.

Table 1: Features of USB kit.

Feature	Available
Portability across PC-s	Yes (custom SW installation required)
Hardware installation required?	No
Gyro output available?	Yes
Accelerometer output	Yes
TOV and External trigger available?	Yes (Break-out-cable)
Transmission rate supported	Up to 3Mbit/s

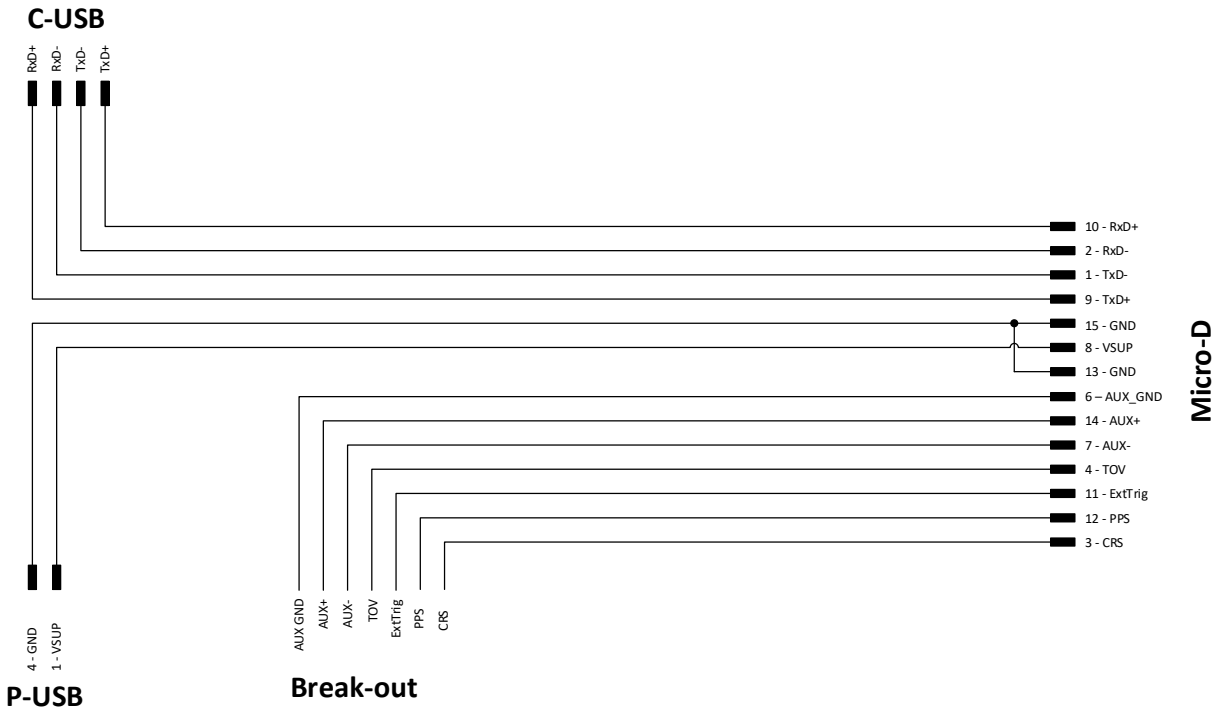


Figure 1: Wiring diagram.

1.2 Configurable and readable parameters

Configurable parameters in Service Mode:

- Output format (angular rate, incremental angle, etc.)
- Bias trim offset parameters
- Datagram format (standard, extended, etc.)
- Sampling rate
- Bandwidth/ Low pass filter frequency
- RS422 transmission bit rate
- Number of stop bits in datagram
- Parity
- Line/ Datagram termination

Configurable parameters in Bias Trim Offset Mode:

- Gyro bias offset
- Accelerometer bias offset

Readable parameters:

- Part number
- Serial number
- Firmware revision
- Hardware revision
- IMU diagonistics

Detailed diagnostic information includes RAM and flash checks, stack handling checks, status of internal voltage supply references, and various parameter reports for each measurement axis are available from the supported SERVICE mode.

Note: Time of Validity (TOV) and external trigger functionalities of STIM318 are not supported by the EVK PC-software.

2 Kit contents

- USB to RS422 interface cable with USB power supply connector
- Memory stick with
    - PC software, STIM318
    - FTDI CDM20824 serial driver for Windows and
    - User manual for evaluation kit
- Allen Wrench for fixing connector of communication and power cable to the IMU
- Hard copy of User manual

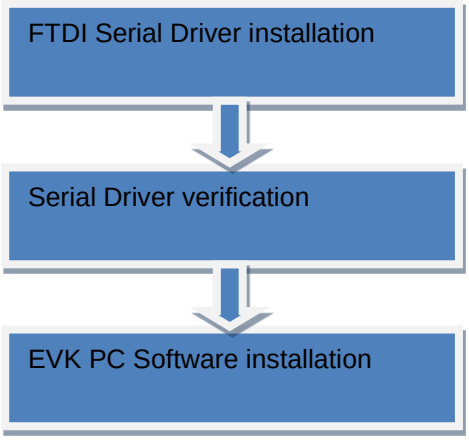
Note that the evaluation kit does not include a STIM318 IMU. This must be ordered separately.

3 System requirements

- Windows XP SP2 (or later), Windows Vista, Windows 7 (32/ 64bit), Windows 10
- 2 free USB ports
- Quad core processor recommended (when simultaneously logging data from two IMUs)

4 Getting started

Preparing your system involves the following steps:



4.1 USB kit Installation of FTDI serial driver

To install the drivers for the FTDI serial driver under Windows, follow the instructions below:

- Connect the USB-RS422 plug to a spare USB port on your PC.
- If there is an available Internet connection, some Windows versions will silently connect to the Windows Update website and install a suitable driver
- In the event that no automatic installation takes place, please refer to the set-up guide from FTDI: http://www.ftdichip.com/Support/Documents/InstallGuides.htm

4.2 Verification and configuration of serial driver

Launch *Device Manager*. See *Control Panel -> Hardware and Sound -> Devices and Printers*.

Verify that the driver installation has completed successfully:

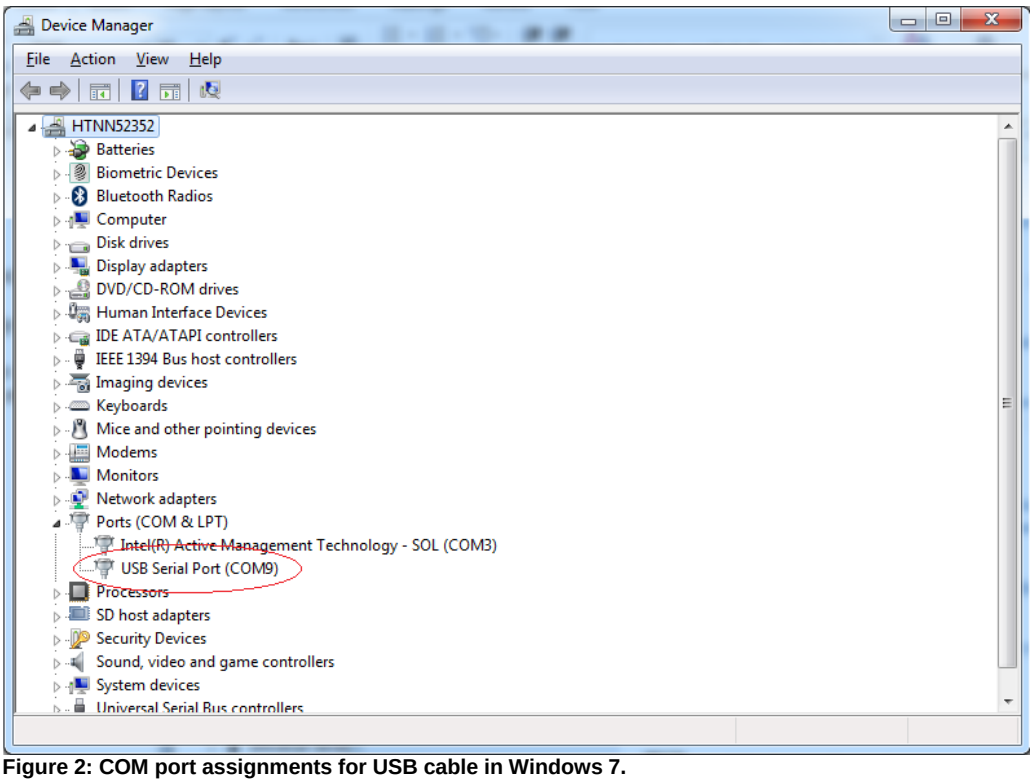
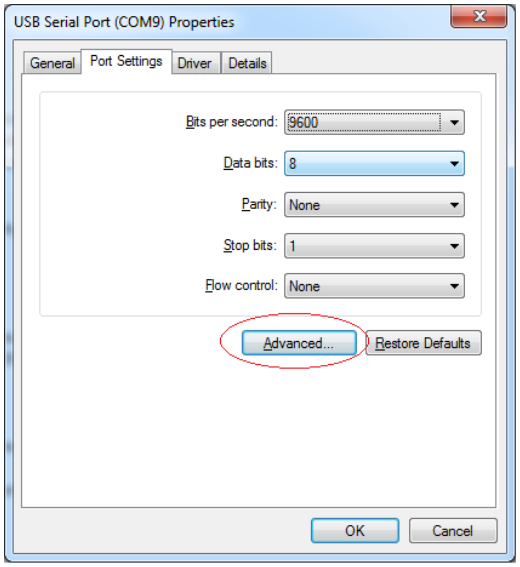


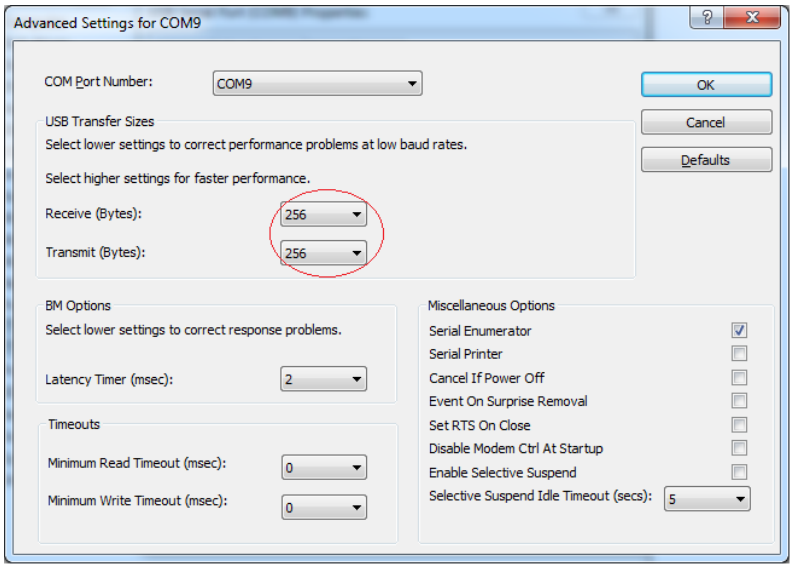
Figure 2: COM port assignments for USB cable in Windows 7.

Make a note of the assigned COM port value(s) information. This will be needed later for connecting to the STIM from the PC software.

Right-click "USB Serial Port (COM<n>)" and select "Properties"



Select "Advanced" from the "Port Setting" tab.



Set the "Receive (Bytes)" and Transmit (Bytes) settings to 256.
Press OK twice.

The computer may have to be restarted for the changes to take effect.

4.3 Installation of PC software

Install the PC software by running "setup.exe" found on the included memory-stick or downloaded from Sensonor web page. Follow the on-screen instructions to complete the installation. See the following figures for guidance.

The PC software also can be downloaded from the Sensonor support site. Check this site regularly for updates.

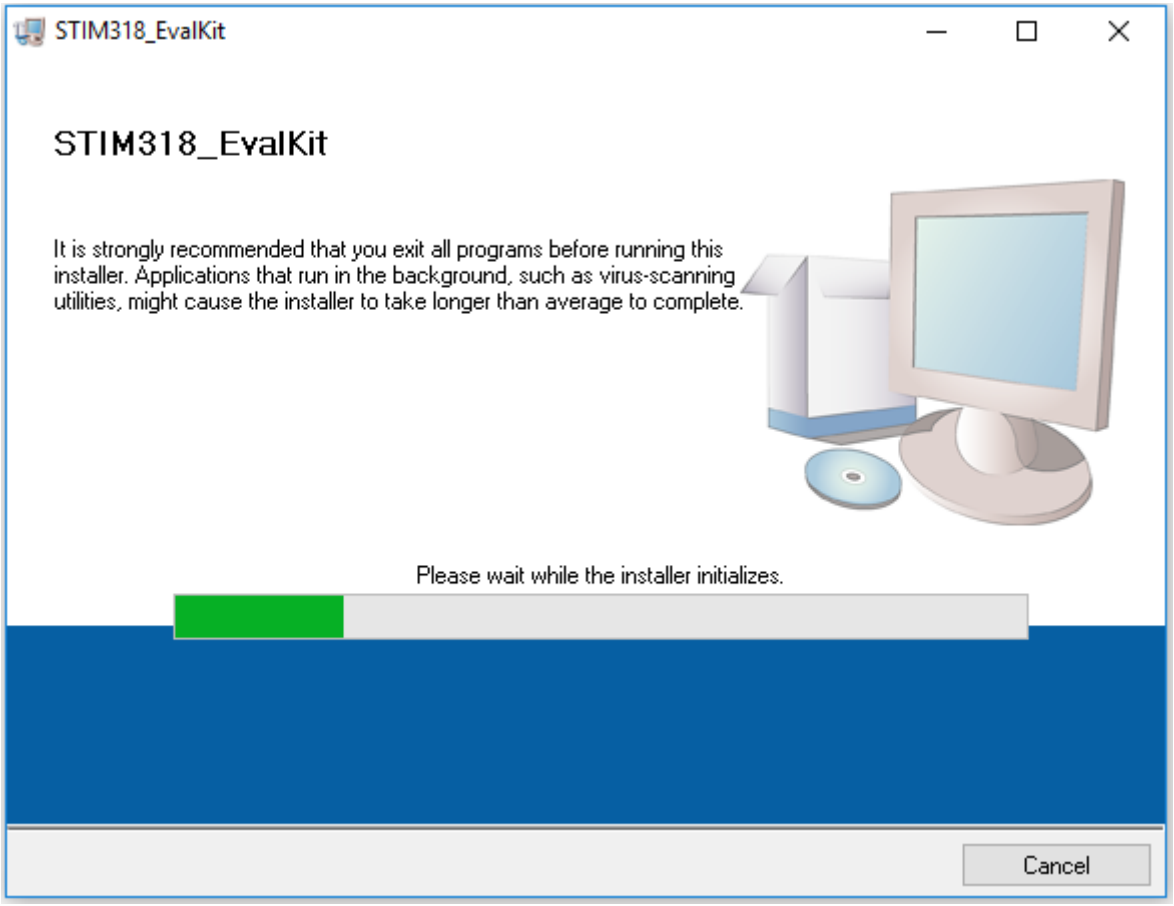


Figure 3: PC software installation (1 of 4). Installer initializes

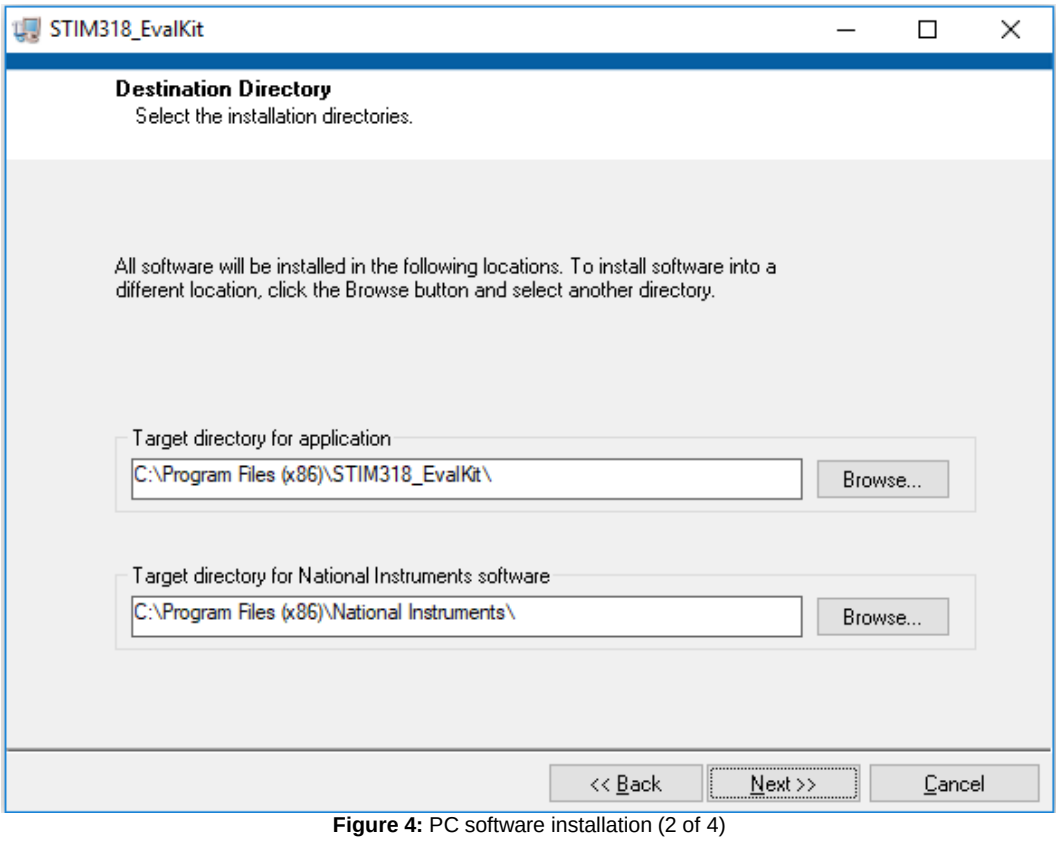


Figure 4: PC software installation (2 of 4)

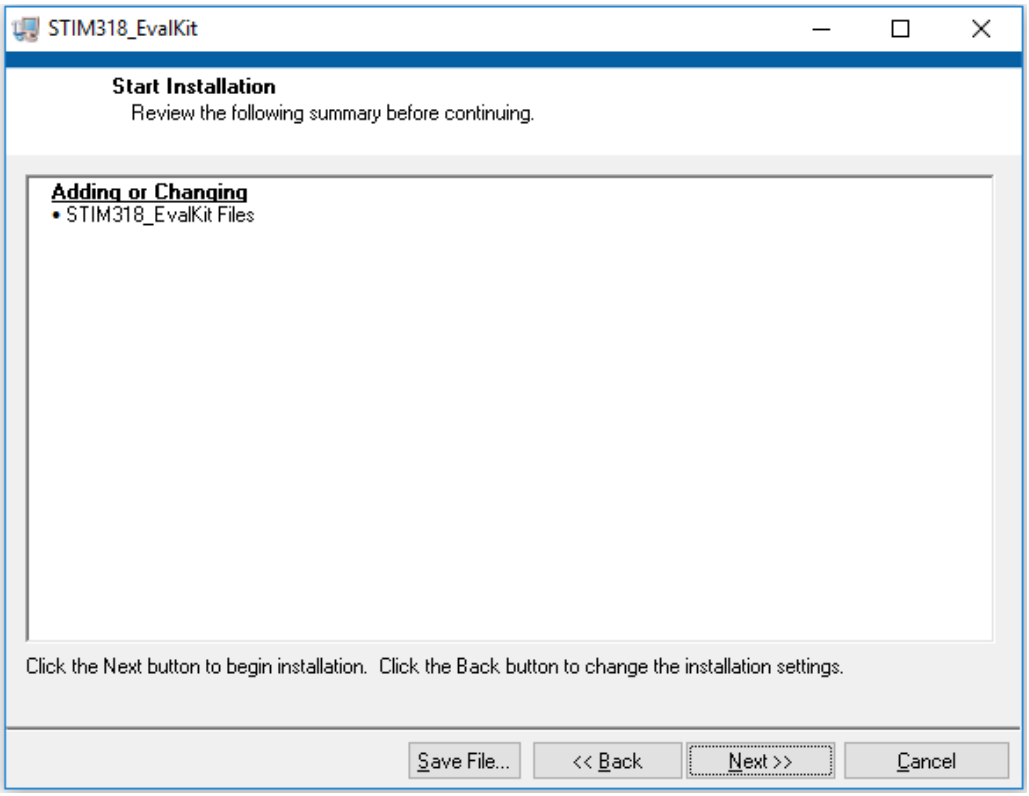


Figure 5: PC software installation (3 of 4)

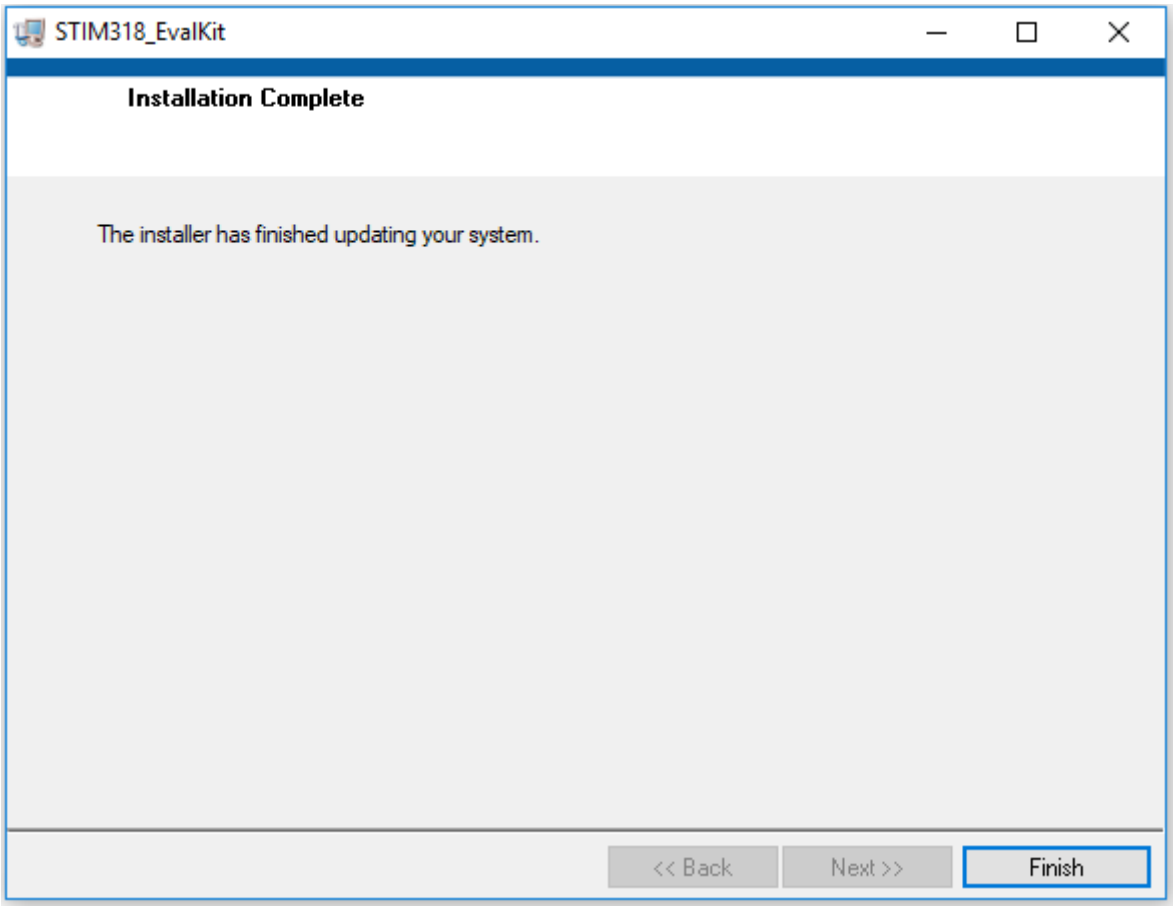


Figure 6: PC software installation (4 of 4). Installation complete.

5 Connecting the STIM to your PC

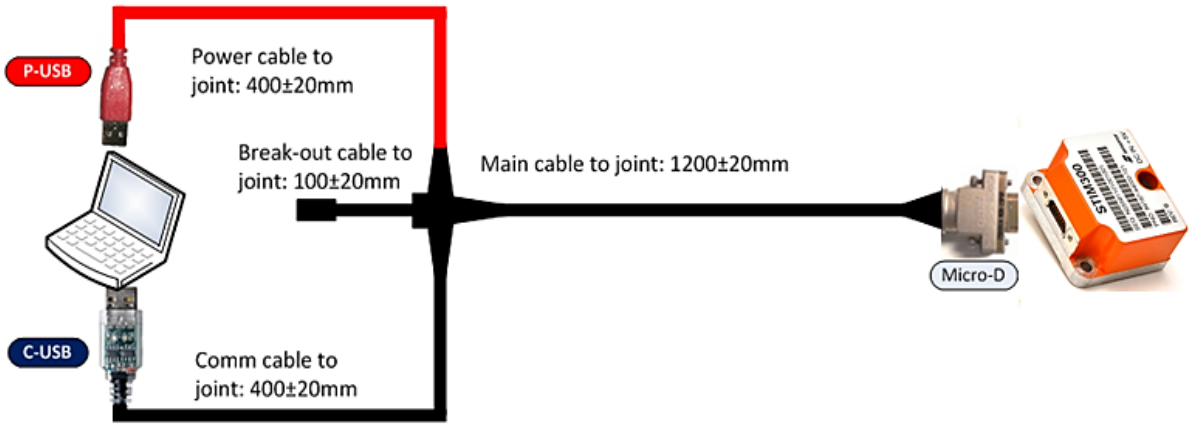


Figure 7: An illustration of how the STIM318 is connected to a PC.

6 First PC software start-up

1. Navigate to the ‘Sensonor evaluation tools’ folder from Windows start menu. Click on the shortcut named "STIM318 EVK" to start the PC software. For full functionality, the computer user should have Local Administrator rights.

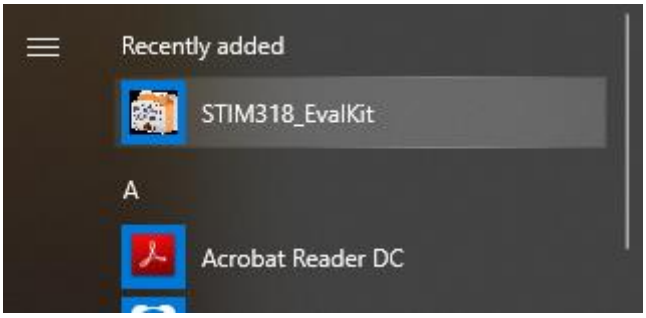


Figure 8: Starting PC software from Windows 10 start menu

2. A pop-up box appears, asking for a parameter (.INI) file. Select the INI-file (available in the installation folder by default) and press "Load"

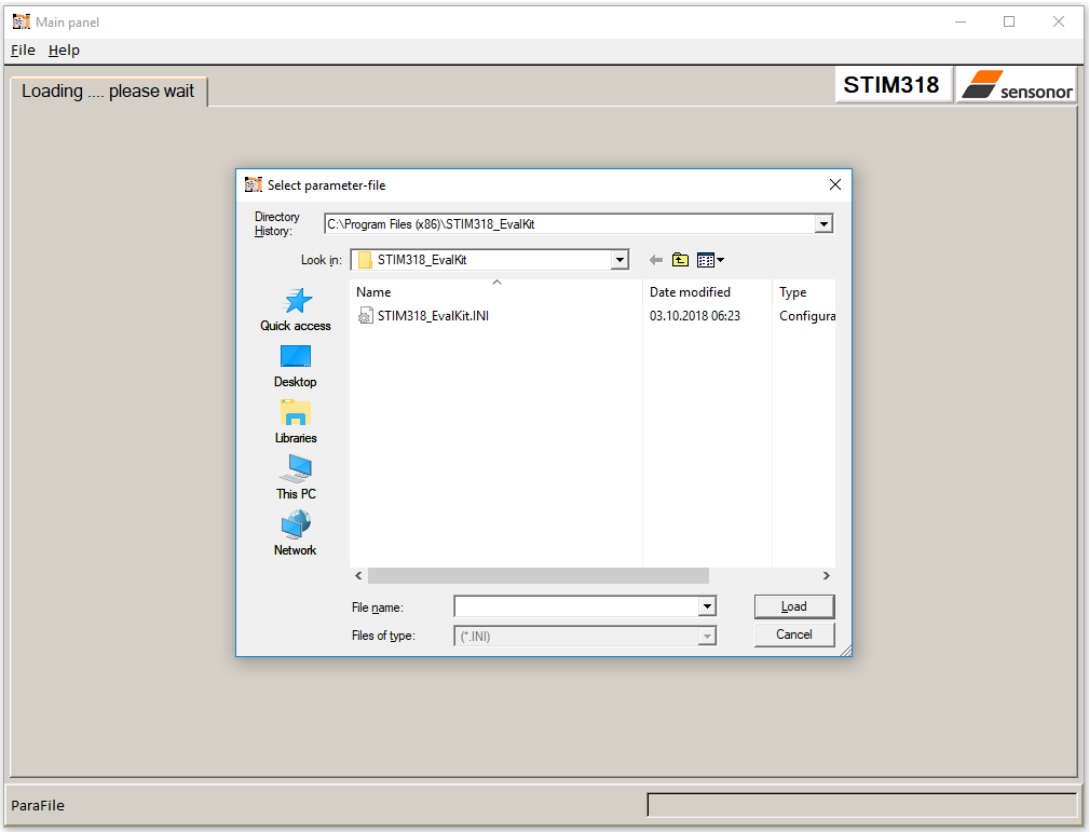


Figure 9: INI-file selection

3. A pop-up box for software registration appears. Fill in the open fields and press "Submit". The default email client opens. Press "Send" in order to complete this step (user information is sent to Sensonor for support issues). This step will only have to be completed once.

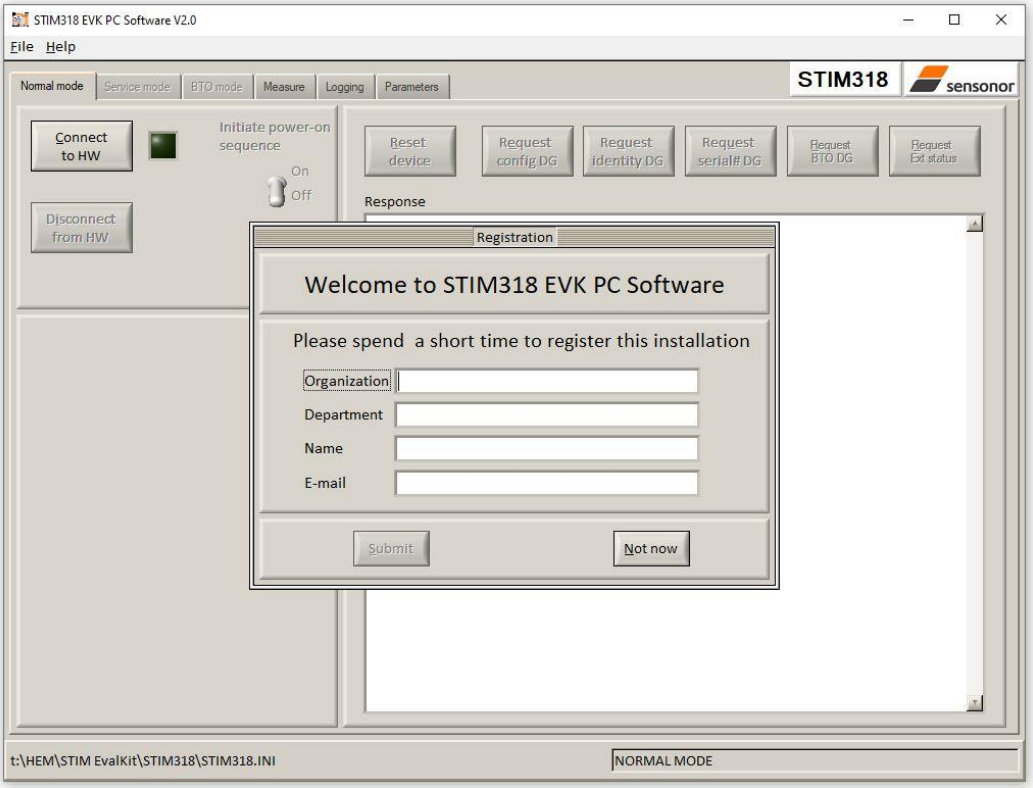


Figure 10: Welcome message and software registration

4. The Normal mode panel is shown

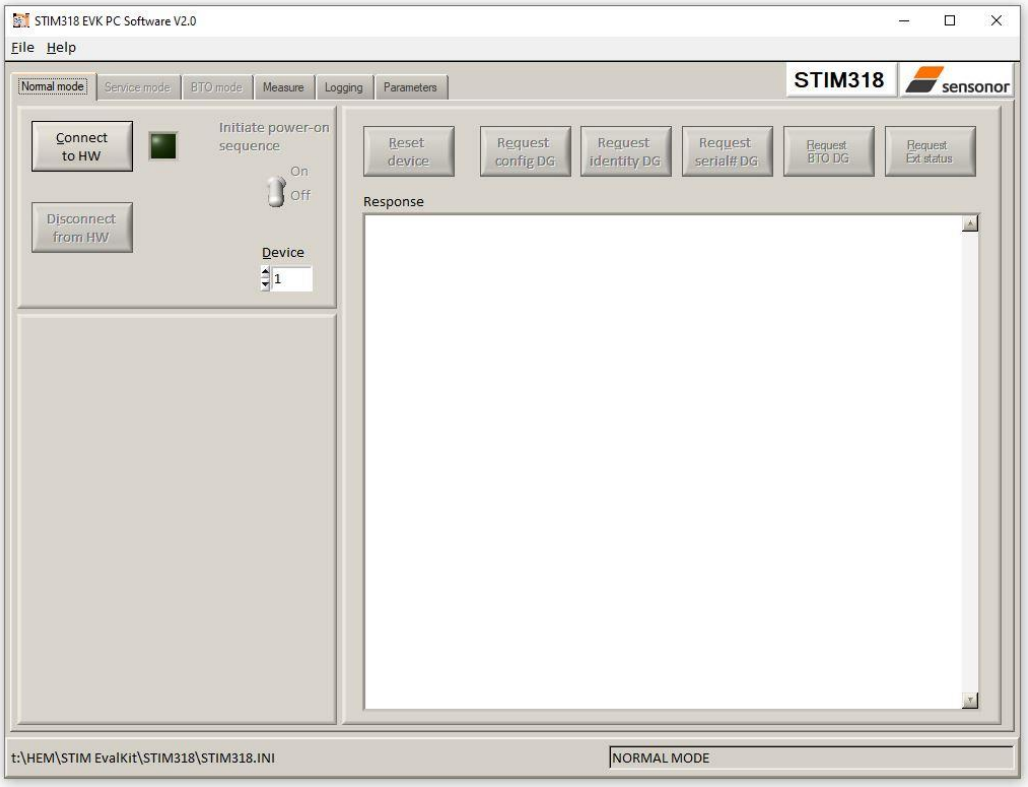


Figure 11: Normal mode panel after selecting INI-file

5. Verify the correct COM port settings in the Parameters view. If needed port # setting needs to be changed, do this by double clicking on the value and enter correct value. The default password to edit is ‘stim’.

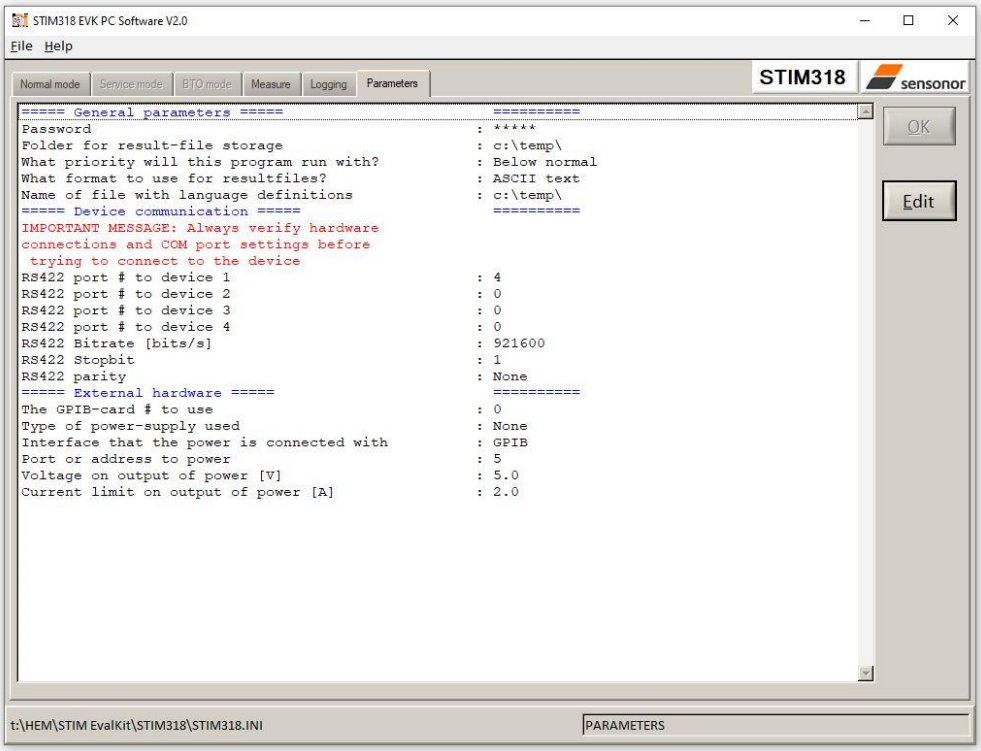


Figure 12: Edit the INI-file in order to verify correct COM port settings

6. Connect the IMU by pressing the 'Connect to HW' button in the Normal mode panel. A green LED light indicates that the COM port is active.

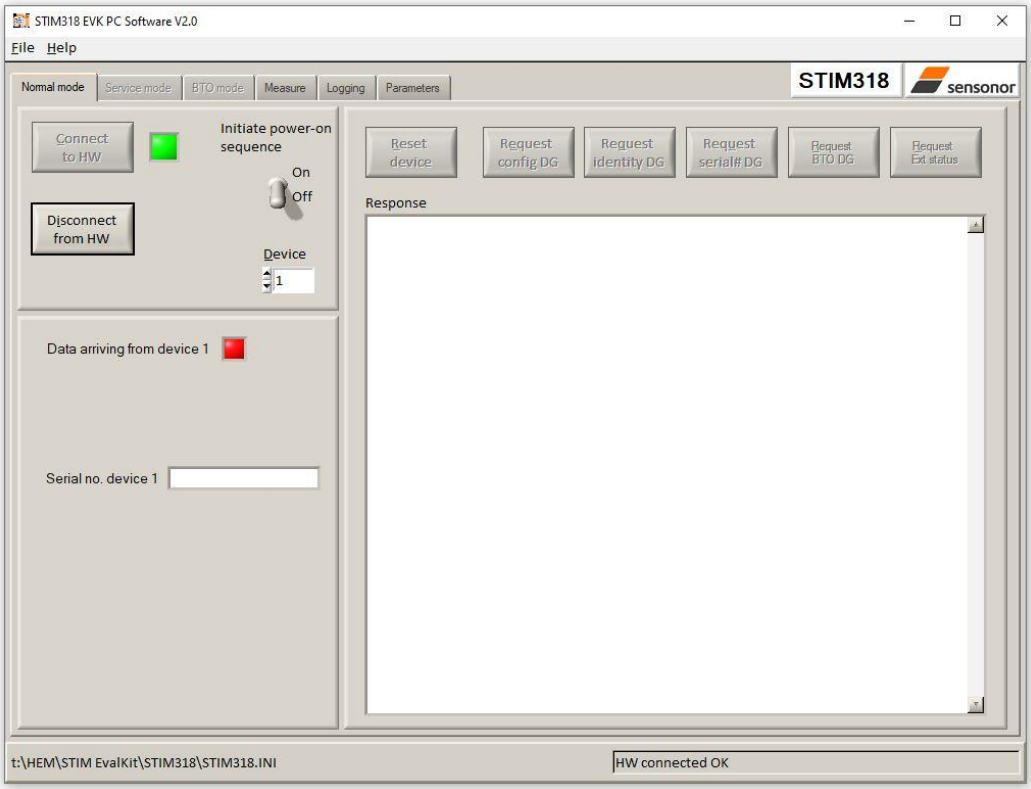


Figure 13: Normal mode panel after first hardware connection

7. Click on the the 'Initiate power-on sequence' control switch so it switches position to 'On'. Do not insert the power supply cable at this point. The pop-up message asking for confirmation of bitrate appears. Press OK.

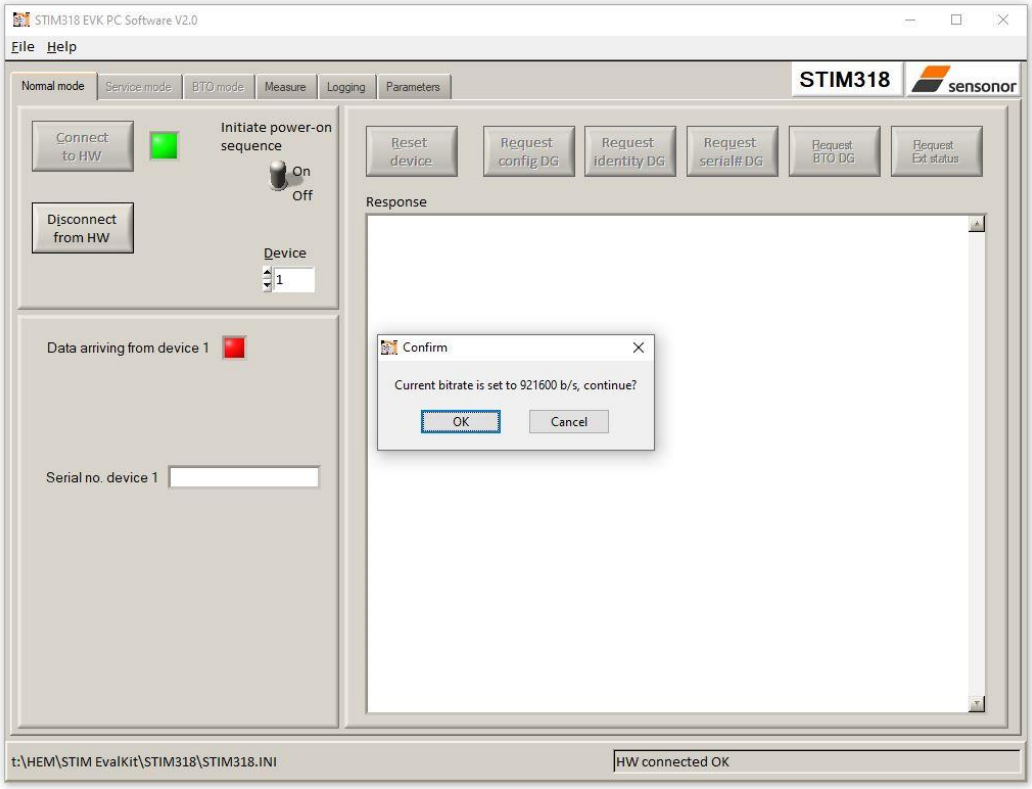


Figure 14: Normal mode panel when USB power connector of *STIM300 communication and power cable* is to be inserted

8. A pop-up message telling "Connect power cable to voltage supply and then press OK to continue" appears. First insert the red USB connector into a free USB port of the PC/ laptop and then confirm the supply voltage is applied by pressing 'OK'

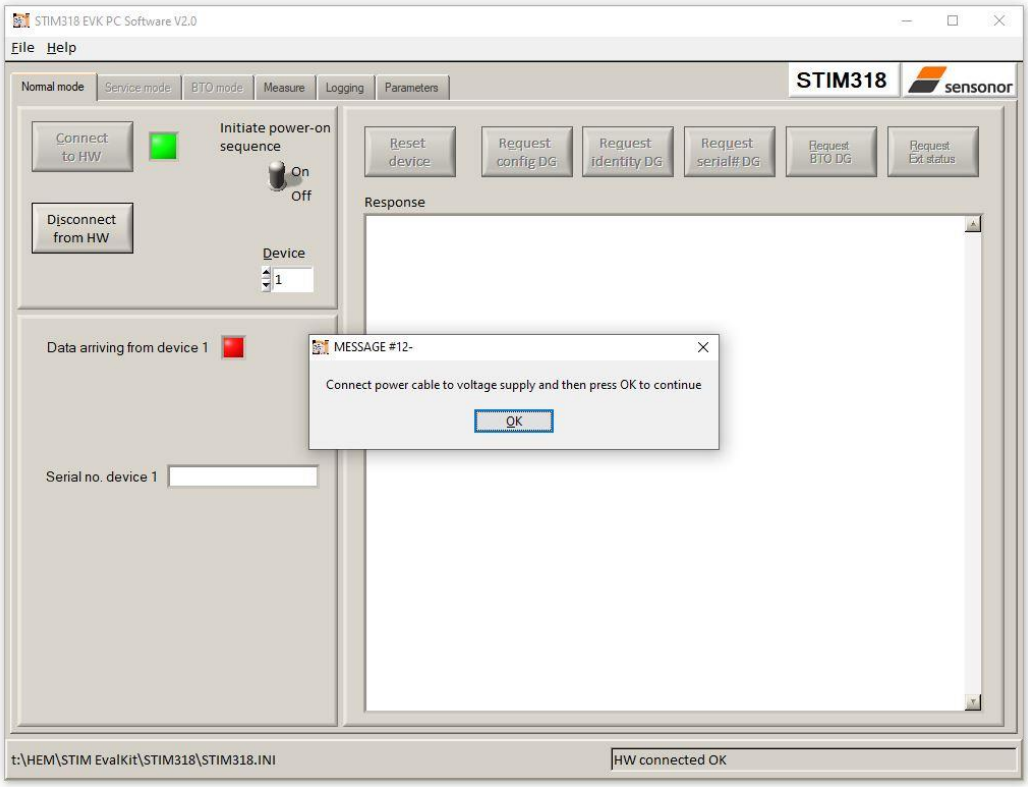


Figure 15: Confirmation of supply voltage

9. A green LED (Data arriving from device n) indicates that data is received from the IMU(s). Verify the communication to module by clicking on the 'Request serial# DG' button. An example of such a result is shown in Figure 16. The system is now ready for use.

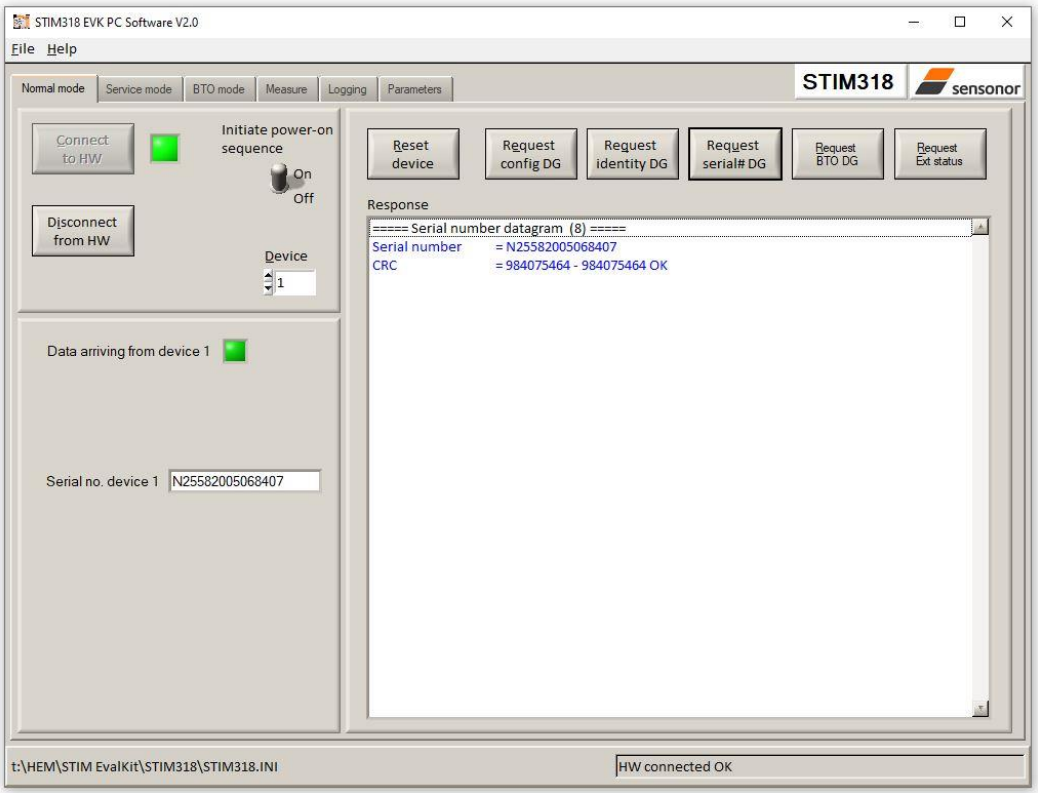


Figure 16: Result of sending 'Request serial# DG' to the IMU

7 Introduction to PC software

7.1 Panels overview

In addition to the panel already shown (Normal mode and Parameters panel), other panels are also available:

7.1.1 Service mode panel

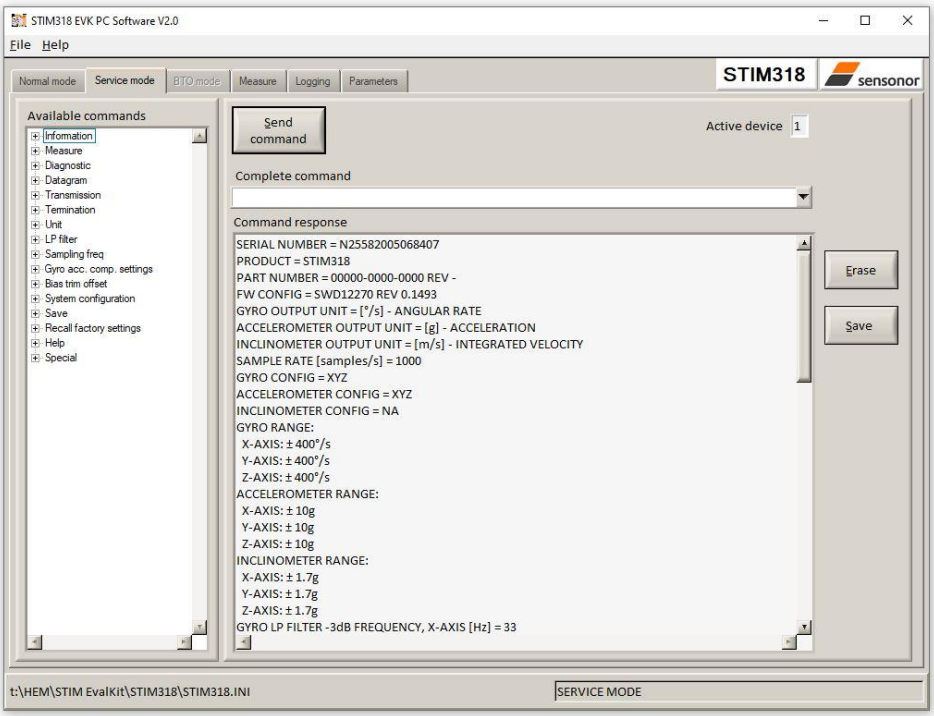


Figure 17: Service mode panel

7.1.2 BTO panel

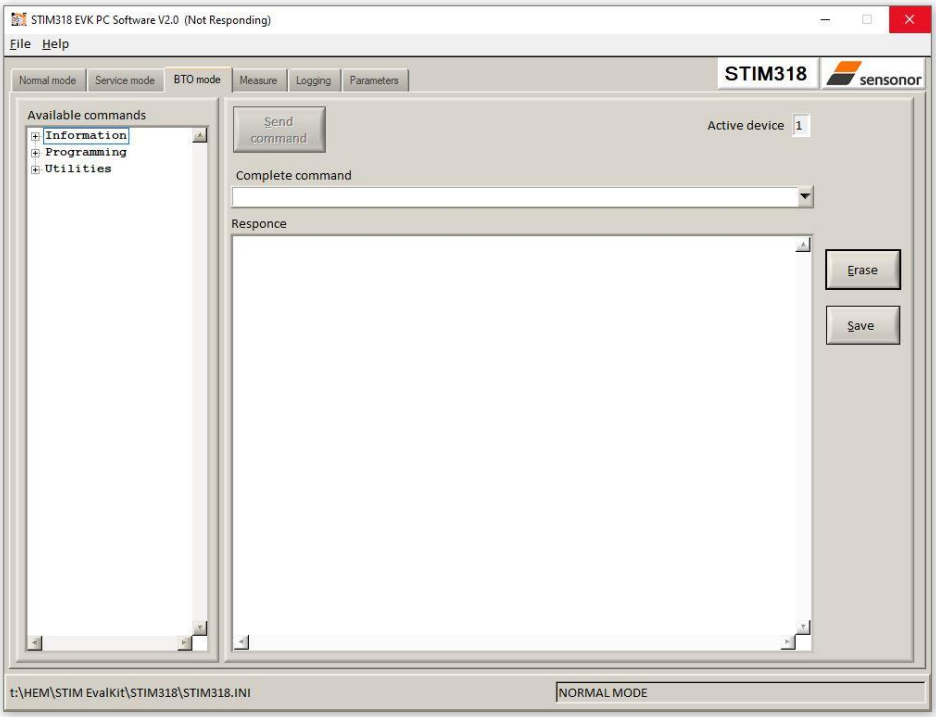


Figure 18: BTO mode panel

7.1.3 Measure panel

Figure 19: Measure panel

7.1.4 Logging panel

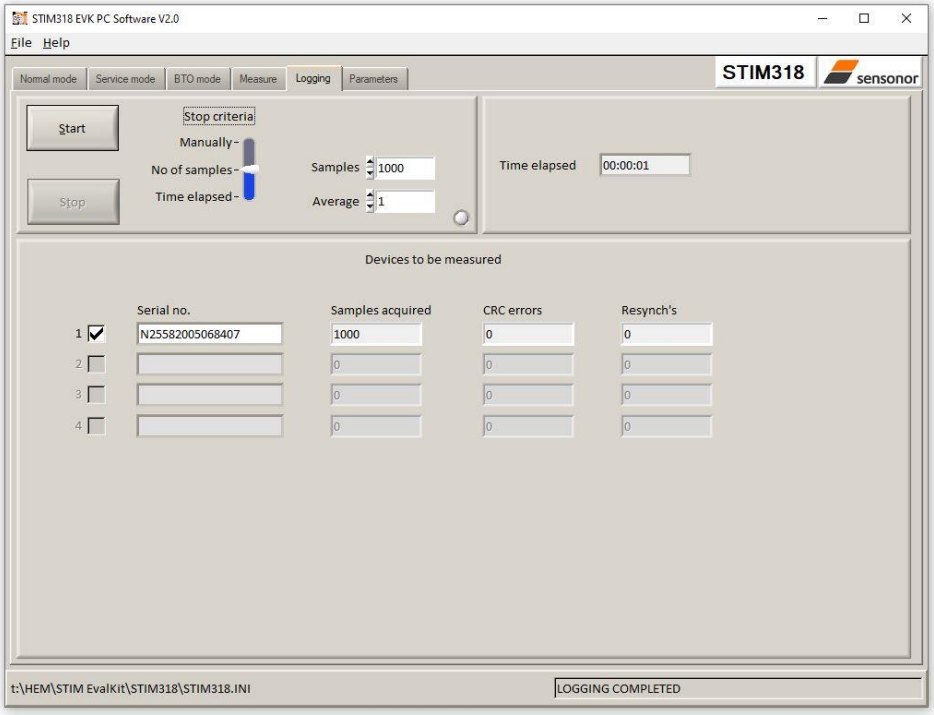


Figure 20: Logging panel (for saving data to file)

7.2 Main panel menu

Table 2: The options available from the main panel menu.

Menu	Description
'File' → 'New parameter file'	Creates a new INI-file with default settings. Note that the new INI-file must be edited to match the hardware and IMU configuration settings.
'File' → 'Open parameter file'	For loading an existing INI-file
'File' → 'Save parameter file as'	To save current parameter settings with a new file name
'File' → 'Print parameters'	For printing the current 'Parameters' content on the default printer
'File' → 'Edit parameters'	Edit the 'Parameters' content
'File' → 'Exit'	Exit program
'Help' → 'Check for updates'	Opens the Sensonor support site in a web browser. New and updated Drivers, PC software and user manuals can be downloaded
'Help' → 'About'	Information about the program (Program name, publisher and software revision number)

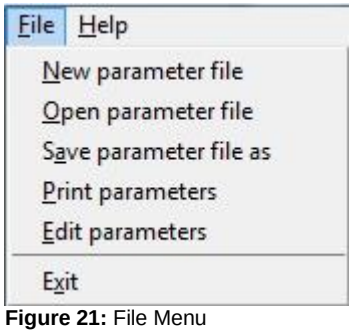


Figure 21: File Menu

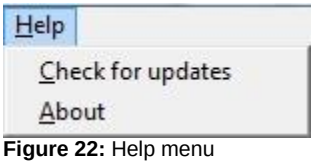


Figure 22: Help menu

7.3 Normal mode panel descriptions

Table 3: Normal mode panel descriptions.

Panel unit	Functionality and description
Connect to HW	Connects to interface hardware. Opens COM port according to settings specified in active parameter file
LED	Indicator for hardware connection. A GREEN light indicates the COM port is opened
Disconnect from HW	Disconnects from interface hardware. Closes the COM port
Apply voltage switch (On/Off)	Toggles supply voltage if connected to an external power supply. Controls certain functions of the PC software.
Device box	Device number (and corresponding COM port) according to active parameter file. Selects which IMU is activated for datagram requests in Normal mode, Service mode operations and measurements in Measure panel. Does not apply for Logging panel.
Reset device button	Resets the IMU. Sends reset command ('R')
Request config DG button	Sends command ('C') to receive configuration datagram
Request identity DG button	Sends command ('N') to receive part number datagram
Request serial# DG button	Sends command ('I') to receive serial number datagram
Request Ext status button	Sends command ('E') to receive extended error information datagram
Request BTO DG button	Sends command ('T') to receive Bias Trim Offset datagram
Response window	Displays response to special datagram requests ('C', 'N' and 'I' datagrams)

7.4 Service mode panel descriptions

Service mode is used for IMU configuration.

Service mode is entered by clicking on the Service mode tab next to the Normal mode tab after the IMU has been powered up. Service mode usage, functionalities and descriptions are listed in Table 6. Exit from Service mode to Normal mode by selecting one of the other panel tabs (Normal, Logging, Service or Parameter panel tab).

Note: Changes made for the IMU in Service mode are only stored permanently in flash memory when the save command ('s') subsequently is sent to the IMU.

Table 4: Service mode panel descriptions.

Panel unit	Functionality and description
Available commands window	Shows a list of available commands. See product datasheet for details
Complete command window	Contains the complete command to be sent. The command is auto-completed by the software during usage of the listings in the Available commands window. Left click inside the Complete command window brings up a list of previously sent commands. Right click enables manual command entry
Send command button	Sends command to the IMU
Active device indicator	Indicates active IMU. Corresponding COM port is specified in the active parameter file
Command response window	Shows the responses to commands from the IMU. See product datasheet for details
Erase button	Clears the content of the command response window
Save button	Saves the content of the command response window to a text file with a date and time tag

7.5 BTO mode panel

BTO mode is used for configuration of bias trim offset parameters.

BTO mode is entered by clicking on the BTO mode tab after the IMU has been powered up. BTO mode usage, functionalities and descriptions are listed in Table 5. Exit from BTO mode to Normal mode by selecting any available panel tab.

Note: Changes made for the IMU in BTO mode are only stored permanently in flash memory when the settings are saved to flash memory.

Table 5: BTO mode panel descriptions

Panel content	Functionality and description
Available commands window	Shows a list of available commands. See product datasheet for details
Complete command window	Contains the complete command to be sent. The command is auto-completed by the software during usage of the listings in the Available commands window. Left click inside the Complete command window brings up a list of previously sent commands. Right click enables manual command entry
Send command button	Sends command to the IMU
Command response window	Shows the responses to commands from the IMU. See product datasheet for details
Erase button	Clears the content of the command response window
Save button	Saves the content of the command response window to a text file with a date and time tag

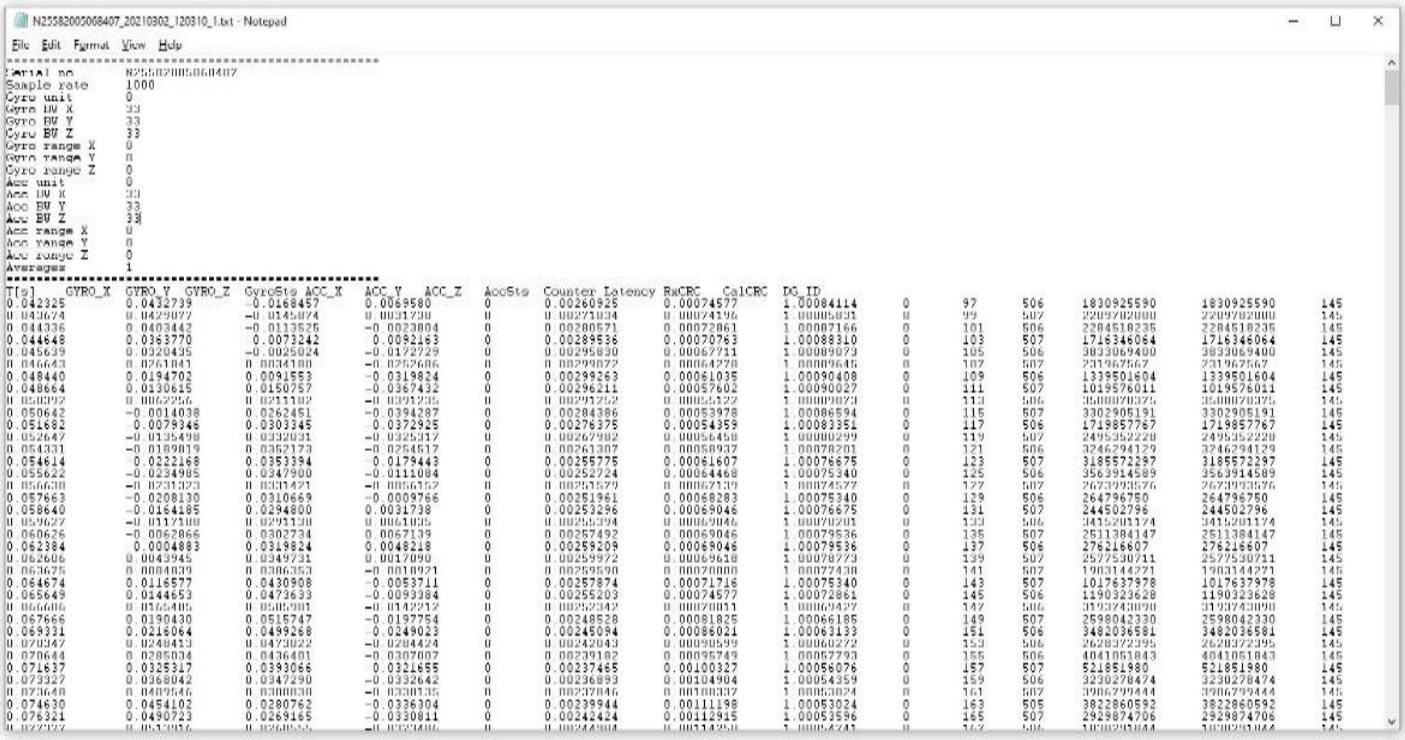
7.6 Measure panel descriptions

Table 6: Measure panel descriptions.

Panel unit	Functionality and description
Measure button	Starts a measurement series
Samples box	Defines the number of samples to be collected (max 50 MS)
Save to file button	Saves data from a completed measurement series to a result file. The file path defined in the active parameter file is proposed
X-, Y- and Z-axis check boxes	Selects which axis data to present in the graph area (up to 3 axes can be plotted simultaneously)
Relative and absolute toggle switch	When set to 'Absolute', all results are plotted as received. When set to 'Relative' the curves are translated so that the first measurement is shown in the plot as zero.
Active device indicator	Indicates active IMU. Corresponding COM port is specified in the active parameter file
CRC and DG-ID LEDS	Status on all CRC checks and DG-IDs. GREEN = OK, RED = FAIL

Data box	Selects which datagram content to be shown. Several options are available, depending on the active datagram type. Left click inside box to display available selections. The plot updates immediately if a measurement series has been done.
Scale box	Enables user to change Y-axis scaling (Full range, User defined, or Auto). Left click inside box to display available selections
Sample rate box	Displays the sample rate used in measurement
Unit box	Displays the output unit for all measurements (Angular Rate, Incremental Angle, etc.)
DG type box	Displays the type of datagram received
Save to disk icon	Saves the plot to a .JPG file
Print icon	Prints a picture of the plot to the default printer
1:1 icon	Resets zoom level to 1:1 (if ZOOM is active. See below)
Zoom icon	Enables a custom zoom of the presented results in the strip chart (graph area) according to placement of the cursors
Cursors (On/Off) switch	Enables usage of cursors (default is Off)
Cursor 1	Shows the location of cursor no 1
Cursor 2	Shows the location of cursor no 2
Delta	Shows the delta between the two cursor locations (X and Y values)
Progress bar	A blue continuous line above plot area shows the measurement series progress
Lower bar on panel	Shows the INI-file in use and the active mode (INTERACTIVE MEASUREMENTS)

Saved data:
An example of a result file is shown in Figure 23, for a standard datagram measurement series of IMU # 1. A description of each of the columns of the data log file is found in the table that follows.


N25582005008407_20210302_120310_1.txt - Notepad

File Edit Format View Help

```
**************************************************
Serial no       N25582005008407
Sample rate     1000
Gyro unit       0
Gyro BW X       33
Gyro BW Y       33
Gyro BW Z       33
Gyro range X    0
Gyro range Y    0
Gyro range Z    0
Acc unit        0
Acc BW X        33
Acc BW Y        33
Acc BW Z        33
Acc range X     0
Acc range Y     0
Acc range Z     0
Averages        1
**************************************************
```

T[s]	GYRO_X	GYRO_Y	GYRO_Z	GyroSta	ACC_X	ACC_Y	ACC_Z	AccSta	Counter	Latency	RxCRC	CalCRC	DG_ID						
0.042325		0.0432739	-0.0168457		0.0069580			0	0.00260925		0.00074577		1.00084114	0	97	506	1830925590	1830925590	145
0.043674		0.0429077	-0.0145874		0.0031730			0	0.00271934		0.00074196		1.00085831	0	99	507	2209702000	2209702000	145
0.044336		0.0403442	-0.0113525		-0.0023804			0	0.00280571		0.00072861		1.00087166	0	101	506	2284518235	2284518235	145
0.044648		0.0363770	0.0073242		0.0092163			0	0.00289536		0.00070763		1.00088310	0	103	507	1716346064	1716346064	145
0.045639		0.0320435	-0.0025024		-0.0172729			0	0.00295830		0.00067711		1.00089073	0	105	506	3833069400	3833069400	145
0.046643		0.0261841	0.0034180		-0.0252686			0	0.00299872		0.00064278		1.00089645	0	107	507	231967567	231967567	145
0.048440		0.0194702	0.0091553		-0.0319824			0	0.00299263		0.00061035		1.00090408	0	109	506	1339501604	1339501604	145
0.048664		0.0130615	0.0150757		-0.0367432			0	0.00296211		0.00057602		1.00090027	0	111	507	1019576011	1019576011	145
0.050092		0.0062256	0.0211182		-0.0391235			0	0.00291252		0.00054122		1.00089073	0	113	506	3500070375	3500070375	145
0.050642		-0.0014038	0.0262451		-0.0394287			0	0.00284386		0.00053978		1.00086594	0	115	507	3302905191	3302905191	145
0.051682		0.0079346	0.0303345		-0.0372925			0	0.00276375		0.00054359		1.00083351	0	117	506	1719857767	1719857767	145
0.052647		-0.0135498	0.0332031		-0.0325317			0	0.00267982		0.00056458		1.00080299	0	119	507	2495352228	2495352228	145
0.054331		-0.0189819	0.0352173		-0.0254517			0	0.00261307		0.00058937		1.00078201	0	121	506	3246294129	3246294129	145
0.054614		0.0222168	0.0363394		-0.0179443			0	0.00255775		0.00061607		1.00076675	0	123	507	3185572297	3185572297	145
0.055622		-0.0234985	0.0347900		-0.0111084			0	0.00252724		0.00064468		1.00075340	0	125	506	3563914589	3563914589	145
0.056630		-0.0201393	0.0311421		-0.0056152			0	0.00251579		0.00067139		1.00074577	0	127	507	2673993576	2673993576	145
0.057663		-0.0208130	0.0310669		-0.0009766			0	0.00251961		0.00068283		1.00075340	0	129	506	2647967750	2647967750	145
0.058640		-0.0164185	0.0294800		0.0031738			0	0.00253296		0.00069046		1.00076675	0	131	507	244502796	244502796	145
0.059627		-0.0117188	0.0291138		0.0061035			0	0.00255394		0.00069046		1.00078201	0	133	506	3415201174	3415201174	145
0.060626		-0.0062866	0.0302734		0.0067139			0	0.00257492		0.00069046		1.00079536	0	135	507	2511384147	2511384147	145
0.062384		0.0004883	0.0319824		0.0048218			0	0.00259209		0.00068046		1.00079536	0	137	506	276216607	276216607	145
0.062606		0.0043945	0.0349731		0.0017090			0	0.00259972		0.00069618		1.00078773	0	139	507	2577530711	2577530711	145
0.063625		0.0084839	0.0386353		-0.0010071			0	0.00259590		0.00070000		1.00077438	0	141	507	1903144271	1903144271	145
0.064674		0.0116577	0.0430908		-0.0053711			0	0.00257874		0.00071716		1.00075340	0	143	507	1017637978	1017637978	145
0.065649		0.0144653	0.0473633		-0.0093384			0	0.00255203		0.00074577		1.00072861	0	145	506	1190323628	1190323628	145
0.066686		0.0165405	0.0506591		-0.0142212			0	0.00252342		0.00078011		1.00069427	0	147	506	3193743090	3193743090	145
0.067666		0.0190430	0.0515747		-0.0197754			0	0.00248528		0.00081825		1.00066185	0	149	507	2598042330	2598042330	145
0.069331		0.0216064	0.0499268		-0.0249023			0	0.00245094		0.00086021		1.00063133	0	151	506	3482036581	3482036581	145
0.070347		0.0248413	0.0473022		-0.0284424			0	0.00242043		0.00090599		1.00060272	0	153	506	2628372395	2628372395	145
0.070644		0.0285034	0.0436401		-0.0307007			0	0.00239182		0.00095749		1.00057793	0	155	506	4041051843	4041051843	145
0.071637		0.0325317	0.0393066		-0.0321655			0	0.00237465		0.00100327		1.00056076	0	157	507	521851980	521851980	145
0.073327		0.0369042	0.0347290		-0.0332642			0	0.00236893		0.00104904		1.00054359	0	159	506	3230278474	3230278474	145
0.073648		0.0409546	0.0300030		-0.0330135			0	0.00237846		0.00108307		1.00053024	0	161	507	3906799444	3906799444	145
0.074630		0.0454102	0.0280762		-0.0336304			0	0.00239944		0.00111198		1.00053024	0	163	505	3822860592	3822860592	145
0.076321		0.0490723	0.0269165		-0.0330811			0	0.00242424		0.00112915		1.00053596	0	165	507	2929874706	2929874706	145

Figure 23: Result file example

Table 7: Result file example. (Standard datagram content written to file).

DG-type	Col. #	Heading	STIM210	STIM300	Comments
Standard	1	Time[s]	X	X	Time in seconds (derived from sample rate). First sample is always zero.
	2	GYRO_X	X	X	Gyro signal X-axis
	3	GYRO_Y	X	X	Gyro signal Y-axis
	4	GYRO_Z	X	X	Gyro signal Z-axis
	5	GYRO_STS	X	X	Status-byte for gyro
	6	GYRO_TMP_X	X	X	Temperature, X-axis gyro
	7	GYRO_TMP_Y	X	X	Temperature, Y-axis gyro
	8	GYRO_TMP_Z	X	X	Temperature, Z-axis gyro
	9	GYRO_TMP_STS		X	Gyro temperature status
	10	ACC_X		X	Accelerometer signal X-axis
	11	ACC_Y		X	Accelerometer signal Y-axis
	12	ACC_Z		X	Accelerometer signal Z-axis
	13	ACC_STS		X	Status-byte for accelerometer
	14	ACC_TMP_X		X	Temperature, X-axis accelerometer
	15	ACC_TMP_Y		X	Temperature, Y-axis accelerometer
	16	ACC_TMP_Z		X	Temperature, Z-axis accelerometer
	17	ACC_TMP_STS		X	Accelerometer temperature status
	18	Counter	X	X	Sample counter. See product datasheet for details
	19	Latency	X	X	Sample latency. See product datasheet for details
	20	RxCRC	X	X	Received CRC
	21	CalCRC	X	X	Calculated CRC
	22	DG_ID	X	X	Datagram identifier

7.7 Logging panel

Table 8: Logging panel descriptions.

Panel unit	Functionality and description
Start button	Starts data logging
Stop button	Stops data logging
Stop criteria slide	User can select between “Manually”, “No of samples” and “Time elapsed” for stopping a measurement series
Samples box	Used for defining number of samples when logging a finite number of samples
Time elapsed	Shows the time elapsed since start of test
Samples acquired	Shows number of samples acquired
CRC_errors	Shows number of CRC errors (normally 0, otherwise the user should consider to reject results data in any analysis)
Resynch’s	Increments from 0 to a number if any re-synchronisations are needed in order to re-establish data collections from module

Log to file capability:

- Quad core processor is recommended when measuring on two IMUs simultaneously
- The size of the log file is only limited by the available space on the storage media in use
- The path for result file storage is defined in the active parameter file
- The program should be run with administrator rights to ensure the creation and storage of the result file

7.8 Parameters panel

Table 9: Parameters panel descriptions.

Panel unit	Functionality and description
===== General parameters =====	
Password	Current valid password to be able to edit the parameters list. The password is “stim”
Folder for result-file storage	Path to storage (e.g. “c:\userdata\test\")
What priority will this program run with	Instructs the program priority for the PC operation system
What format to use for result files	ASCII text by default. Can be changed to 8 byte binary
Name of file with language definitions	Application can be configured with language other than English
===== Device communication ===== IMPORTANT MESSAGE: Always verify hardware connections and COM port settings before trying to connect to the device	
RS422 port # to device 1	Defining which COM port # to assigned to IMU # 1
RS422 port # to device 2	Defining which COM port # to assigned to IMU # 2
RS422 Bitrate [bit/s]	RS422 bit rate selection
RS422 Stopbit	1 or 2. Default is “1”
RS422 parity	None, odd or even. Default is “None”
===== External Hardware =====	
The GPIB-card # to use	Interface for external power supply (optional). If card(s) are in use; the first card will be assigned to #0, second to #1, etc. Default value is “0”
Type of power supply used	External power supply (optional). Default "None" (not in use). Agilent E3631A, E3633A and E3644A are supported
Interface that the power is connected with	Interface type for external power supply (optional). Default "None" (not in use). RS232 (for Agilent E3631A only) and GPIB supported
Port or address to power	GPIB port for external power supply (optional). Default "0" (not in use). Selectable up to 31
Voltage on output of power supply [V]	Voltage output on external power supply (optional). Default value is 5.1 V. Value should be within the supply voltage range of the IMU. See product datasheet for details
Current limit on output of power [A]	Current limitation on external power supply (optional). Default value is 1.0 A

7.9 Messages from the program

Messages that the program can display are listed inTable 10:

Table 10: Possible messages given by the program.

#	Message	Description
1	This application is already running! Stop loading of 2. instance...	The program is already started, a second instance will not be allowed
2	Wrong password entered!	The password entered does not match the required one for this INI-file
3	No response to message was received	Did not receive the expected response to the sent service-mode command
4	There is no measurement data available for storage	To be able to save measurement data, there must be data available
5	Unable to open the selected file	Saving of measurement data failed, unable to open or create the selected file
6	Unable to allocate the required memory	Failed to acquire the requested number of datagrams from the IMU due to error when trying to allocate memory for temporary storage
7	No product identification datagram received	Even after retries the, expected datagram is not received as response to command sent
8	No configuration datagram received	Even after retries the, expected datagram is not received as response to command sent
9	No serial number datagram received	Even after reties the, expected datagram is not received as response to command sent
10	No datagrams received	Failed to acquire the requested number of datagrams from the IMU, no recognizable datagrams received
11	Turn off device supply voltage	Instruction to user when running without controlled power-supply
12	Turn on device supply voltage	Instruction to user when running without controlled power-supply
13	Error encountered when trying to control voltage	Failed to detect the three special datagrams that theSTIM318 sends immediately after power on. This could result from incorrect power up sequence (as specified via dialog boxes during power-on procedure) or from incorrect communication settings (COM port number, parity settings, number of stop bits, bit rate etc.)
14	Unexpected DG-ID received !	When waiting for datagrams, unexpected datagrams are received
15	Unable to read config DG to determine output unit !	Unable to read configuration datagram to determine the output unit
16	Unable to synch with DG-stream !	Failed to acquire the requested number of datagrams from the IMU, unable to get in synch with datagram stream
17	Error encountered when trying to print, check configuration !	Failed to print the graph, check that a printer is configured
18	Unable to create result-folder specified by parameter !	The specified pathname cannot be created, either due to access-rights or errors in the path specification
19	Unable to enter service-mode !	Unable to enter service-mode, does not receive expected response to command.
20	Unable to save parameters to active INI-file !	Error encountered when trying to save parameters onto INI-file
21	Edit-mode of parameters is active, unable to exit !	The edit-mode of parameters are active, unable to exit the program until edit mode is ended
22	You are about to change the RS422 bit rate. If are you using the USB kit hardware provided by Sensonor, please notice that you will not be able to communicate with the device if you change to something else than supported 460800 b/s! For the PCI card there are no worries - it supports all available bit rates	A warning to the user about limitations for certain RS422 hardware

23	Unable to create/save to selected file, check access rights to folder	Unable to open or create the specified file in the selected folder, try another filename and/or location. The reason may be lacking access rights to the folder, or illegal filename format
24	Unsupported datagram received	When trying to read datagrams into memory a datagram type not supported by the EVK is detected